AMSAT News Service Weekly Bulletins
Issue: ANS-331
Date: 1993-11-27
Sources: amsat-ans-1993-ans-331-weekly.txt

SB SAT @ AMSAT $ANS-331.01
MICROSAT ANTENNA POLARIZATION

HR AMSAT NEWS SERVICE BULLETIN 331.01 FROM AMSAT HQ
SILVER SPRING, MD NOVEMBER 27, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-331.01

WD0E Explains MICROSAT Antenna Polarization

There have been quite a few question raised recently regarding the sense of polarization of the MICROSATs. Jim White (WD0E) sheds some light on the subject with the following: "There has been a certain amount of confusion about the sense of the polarization of the MICROSAT down links. The following is an attempt to clarify it. The two transmitters in each MICROSAT are connected to the canted turnstile downlink antenna through a hybrid. The two input ports they are connected to are out of phase with each other. So when one transmitter is on the sense of the downlink will be RHCP and when the other is on it will be LHCP. When we switch trans-mitters, we also switch polarization sense. No sense is 'normal'. During construction there was no attempt to make a particular transmitter a particular sense. The limiting factor was how to fit the semi-rigid cables connecting all the various parts together in the tiny space inside the transmitter module. Additionally, since one of the objectives of the MICROSAT Project was to create satellites that could be used with very simple portable ground stations using simple omni-directional antennas, there was no need to be concerned about sense. When receiving with a circularly polarized ground antennas, miss-matched sense can make several dB of difference at times. The most strongly circular signal will be received by the ground station when the bottom of the satellite is pointed directly at it. For stations at about 35 to 50 degrees north or south latitude, this happens when the satellites are directly overhead and slightly lower in latitude. (For all but LO-19 the turnstile is pointed down in the northern hemisphere, for LO-19 it's down in the southern hemisphere). At other times the sense is effected by a variety of other influences and cannot be relied on. If you have a circularly polarized Yagi with swit-chable sense you can do a test yourself to see which transmitter provides which sense. Throughout a pass, but particularly when the satellite is nearly overhead, switch the antenna sense every few seconds and see which is stronger. At times you will notice a large difference (AO-16 is 5 S units different on my TS-811). The sense that provides the strongest signal over the majority of the pass is the sense of the downlink for that trans-mitter. And for all but DOVE, it also correlates to the frequency, since the 70 cm transmitters are all on different frequencies. DOVE is a special case since it's two transmitters are on nearly the same frequency. To make the correlations yourself on DOVE you would need to do the same test as above, but also check which transmitter is in use as indicated by the STATUS line. We normally run TX#2 on DOVE because it is more efficient.
Here is a chart I have hanging on my wall to remind me of which sense to use."

WD0E welcomes confirmations of these observations:

WO-18:
437.075 PSK LHCP (this TX is bad and not normally used)
437.100 RC RHCP (normally in use)

LO-19:
437.153 PSK LHCP
437.125 RC/CW RHCP

AO-16:
437.025 PSK LHCP (not presently in use)
437.050 RC RHCP (in use now)

DO-17:
145.825 TX#1 LHCP
145.825 TX#2 RHCP (normally used, and in use now)

[The AMSAT News Service (ANS) would like to thank Jim White (WD0E) for this bulletin item. Jim White's Internet address is: wd0e@amsat.org]

/EX
SB SAT @ AMSAT $ANS-331.02
LANDLINE BBS WITH ANS BULLEINS

HR AMSAT NEWS SERVICE BULLETIN 331.02 FROM AMSAT HQ
SILVER SPRING, MD NOVEMBER 27, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-331.02

The AMSAT BBS Network now includes the following BBS's:

CompuServe's HAMNET
Phone: (Local Access)
Location: USA
Baud Rate: Up To 14,400bps
Sysop: Scott Loftness (W3VS)

Western Pacific Database
Phone: 415-453-2854
Location: San Rafael, CA
Baud Rate: Up to 14,400bps V.32bis
Sysop: Daniel C. Dufficy (KH8AF)

The ARRL BBS
Phone: 203-666-0578
Location: Newington, CT
Baud Rate: Up To 14,400bps
Sysop: Luck Hurder (KY1T)

California Amateur Radio Emergency Services (CARES) BBS
Phone: 916-323-4826
Location: Sacramento, CA
Sysop: Gorden Fuller (WB6OVH)

AMSAT East Coast Bulletin Board
Phone: 201-261-2780
Location: New Milford, New Jersey
Baud Rate: Up to 14,400bps
Sysop: Mel Roman (KA2UPD)

HAM>LINK<RBBS
Phone: 612-426-0000
Location: St. Paul, Minnesota
Baud Rate: Up to 9600bps V.32
Sysop: John Desmond (K0TG)

OCA/AMSAT BBS

Phone: 714-738-4331
Location: Fullerton, CA
Baud Rate: Up to 24000bps
Sysop: John Wisniowski (N6DBF)

     DRIG BBS
Phone: 214-394-7438
Location: Carrolton, TX
Baud Rate: Up To 14,400bps
Sysop: Jeff Wallach (N5ITU)

     GEnie's Radio, Electronics, & Broadcasting RoundTable
Phone: Call 800-638-9638 for information and local access phone number
Location: USA
Baud Rate: Up To 9600bps
Sysop: Larry Ledlow (NA5E)

     PC-Ham (Reliable) BBS
Phone: 301-593-9067
Location: Silver Springs, MD
Baud Rate: Up To 9600bps
Sysop: Joe Kasser (W3/G3ZCZ)

     The WireNet BBS
Phone: 205-444-9638
Location: Birmingham, Alabama
Baud Rate: Up To 14,400bps
Sysop: Dennis Dease (N4NR)

     Top of The Rock BBS
Phone: 404-921-8687
Location: Lilburn, GA
Baud Rate: Up To 14,400bps
Sysop: Steve Driggs (KB4ZTN)

     USS Enterprise 1701-D BBS
Phone: 717-752-1468
Location: Berwick, PA
Baud Rate: Up To 2400bps
Sysop: Bill Barnes (N3JIX)

If you run a BBS and would like to join The AMSAT BBS Network, we want to hear from you. Tell us the name of your BBS, phone number, location (city, state), baud rate, sysop's name and callsign, and Internet and/or CompuServe address. Also, what AMSAT, ARRL, etc. files do you post each week?

     You can contact me on:
                         >INTERNET:n6dbf@amsat.org
                                   or
                          CompuServe: 70233,75

73, John Wisniowski (N6DBF)
    AMSAT-NA, BBS Coordinator

/EX
SB SAT @ AMSAT $ANS-331.03
AMSAT OPS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 331.03 FROM AMSAT HQ
SILVER SPRING, MD NOVEMBER 27, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-331.03

Current AMSAT Operations Net Schedule For AO-13

AMSAT Operations Nets are planned for the following times. Mode-B Nets are conducted on AO-13 on a downlink frequency of 145.950 MHz. If, at the start of the OPS Net, the frequency of 145.950 MHz is being used for a QSO, OPS Net enthusiasts are asked to move to the alternate frequency of 145.955 MHz.

Date	UTC	Mode	Phs	NCS	Alt NCS
12-Dec-93	0435	B	180	W9ODI	WB6LLO
3-Jan-94	0200	B	160	WA5ZIB	N7NQM

Any stations with information on current events would be most welcomed. Also, those interested in discussing technical issues or who have questions about any particular aspect of OSCAR statellite operations, are encouraged to join the OPS Nets. In the unlikely event that either the Net Control Station (NCS) or the alternate NCS do not call on frequency, any participant is invited to act as the NCS.

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Slow Scan Television on AO-13

SSTV sessions will be held on immediately after the OPS Nets a downlink on a Mode-B downlink frequency 145.960 MHz.

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SB SAT @ AMSAT $ANS-331.04
WEEKLY OSCAR STATUS REPORTS

HR AMSAT NEWS SERVICE BULLETIN 331.04 FROM AMSAT HQ
SILVER SPRING, MD NOVEMBER 27, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-331.04

Weekly OSCAR Status Reports: 27-NOV-93

AO-13: Current Transponder Operating Schedule:

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L QST *** AO-13 TRANSPONDER SCHEDULE ***  1993 Nov 15-Jan 31
Mode-B  : MA   0 to MA  95 !                   / Eclipses, max
Mode-B  : MA  95 to MA 180 ! OFF Dec 07 - 24. <  duration 136
Mode-B  : MA 180 to MA 218 !                   \ minutes.
Mode-S  : MA 218 to MA 220 !<- S beacon only
Mode-S  : MA 220 to MA 230 !<- S transponder; B trsp. is OFF
Mode-BS : MA 230 to MA 256 !        Blon/Blat 240/-5
Omnis   : MA 250 to MA 150 !  Move to attitude 180/0, Jan 31
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AO-13 will experience another partial solar eclipse on 1993 Dec 13 [Mon]. It sees the Moon eclipse the Sun from 10:09 - 10:59 UTC with a maximum 53% obscuration at 10:34 UTC. This is Orbit #4211 MA 73-92. The encounter will be "visible" on the telemetry to stations throughout the USA and Japan. Reports would be appreciated. Stations who observed this spectacular eclipse of Dec 13 will know what to look for. Eclipses of sun by earth commence on Dec 07 [Tue] and continue until Dec 24 [Fri]. The eclipses are of course total. The maximum lasts 2 hours and 16 minutes, and is the longest AO-13 has ever experienced. The telemetry during these outages is very interesting, particularly the spacecraft temperatures; some reach -40 C. The Mode-B transponder will be OFF from MA 95 to 180 during this two week period. [G3RUH/DB2OS/VK5AGR]

FO-20: The following is the FO-20 operating schedule:

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              Analog mode: 01-Dec-93  08:43 -to- 07-Dec-93 7:16  UTC
                           15-Dec-93  07:41 -to- 22-Dec-93 8:05  UTC
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Digital mode: otherwise noted above. In December, analog mode and digital mode will be ON alternately for a week, respectively. [JJ1WTK]

RS-12: RS-12 was very active on the East Coast and Midwest passes during this last week. Not so active on the West Coast passes. XE1YMY has been worked many times by RS-12 users in Canada, Arizona, and Texas. Also, a YV5 station was heard calling on 15M with no responses! And one can also hear JA stations calling on RS-12 in the late evening West Coast passes. [KF5WY]

The AMSAT NEWS Service (ANS) is looking for volunteers to contribute weekly OSCAR status reports. If you have a favorite OSCAR which you work on a regular basis and would like to contribute to this bulletin, please send your observations to WD0HHU at his CompuServe address of 70524,2272, on INTERNET at wd0hhu@amsat.org, or to his local packet BBS in the Denver, CO area, WD0HHU @ W0LJF.#NECO.CO.USA.NOAM. Also, if you find that the current set of orbital elements are not generating the correct AOS/LOS times at your QTH, PLEASE INCLUDE THAT INFORMATION AS WELL. The information you provide will be of value to all OSCAR enthusiasts.

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